Preface

The 21st International Symposium on Lepton and Photon Interactions marked the return of the Symposium to Fermilab at the start of the Run 2 collider era of the Tevatron. At the time of the Symposium, 11-16th August 2003, the Tevatron had delivered an integrated luminosity surpassing that of the previous collider run. Whereas the 9th Symposium held in 1979 marked the start of construction of what was then called the "Energy Saver/Doubler", this Symposium saw the newest accelerator at Fermilab – the Main Injector – in full collider-mode operation. The Main Injector will help boost the instantaneous luminosity of the Tevatron collider by more than two orders of magnitude compared to the original design luminosity presented in 1979 for the "Energy Saver/Doubler". The Symposium also heralds the start of a new neutrino program at Fermilab powered by the new, Main Injector-fed, NUMI neutrino beamline.

At the 9th Symposium in 1979, the first evidence for gluons was presented and QCD emerged as the theory that could describe what was known about hadrons. It was hoped that QCD would soon be near to gaining the stature of QED. With this Symposium that hope seems to have been realized. Lattice QCD has reached a new precision era, where instead of testing QCD we will be using it to help us determine more precisely the parameters of the Standard Model and to look for New Physics. Other highlights for this Symposium included the vast amount of new data from the B-factories with the tantalizing possibility of non-Standard Model CP-violation. The incredible progress in neutrino physics was again evident with the last pieces of the solar neutrino problem finally in place. However we were reminded how much we still need to know and understand by the talks on Dark Matter and Dark Energy. The talks also showed the synergy between different areas of particle physics and of astroparticle physics and cosmology, especially in the search for New Physics at the TeV energy scale.

While still following the traditional program of review talks, for this edition of the Symposium a real effort was made to increase active participation throughout the Symposium. This was partly achieved by holding breakout discussion sessions between the formal plenary talks where the speakers from several sessions were available for an extended "Question and Answer" session. These new sessions were enormously successful and the only regret maybe is that we do not have a written record of these discussions. However this probably allowed for a more informal and relaxed atmosphere. Additional participation was also generated by another new introduction to the Symposium, a "Physics Posters" session. There were 66 physics posters presented over two days. These posters included results from 20 different experiments as well as posters on theory, analytic techniques and detector development. A "Laboratory Posters" day was again held with the participation of 15 laboratories, based in 8 different countries. In addition one evening was devoted to a special session on the GRID, comprising of an interesting program including both talks and posters.

Another aim for this Symposium was to increase the participation of younger scientists, who are the future of this field. Not only was this achieved by holding the new "Physics Posters" session, but younger scientists were involved throughout the whole Symposium. These included the speakers, the local organizing committee, the Scientific Secretaries, and the Proceedings editors.

A major effort at this Symposium was public outreach. Members of the press held special discussion sessions with scientists on various physics topics and there was a special press conference with the Laboratory Directors. The public outreach effort included interaction with the public during several hours in the Field Museum in Chicago, with coverage by National Public Radio. There were also excellent "Plain English" articles written on seven different particle physics and cosmology topics available via the Symposium website. At the public lecture, Fermilab director, Mike Witherell, gave an inspiring talk on "New Questions about Matter, Space and Time" to a packed audience of the local public. Capping off these outreach efforts was the launch of Interactions.org, a multinational web site designed as a central resource for communicators of particle physics.

Following the excellent efforts of LP01 on keeping a good record of the Symposium, we have tried to

provide as good a record as possible via the web site and through a DVDROM included with the hard-copy of the proceedings. This will provide a lasting record of the live webcast streaming video for each talk, the talk slides, the writeups of each talk, the public lecture, and the physics and laboratory posters.

The synergy between different areas of particle physics and cosmology that was so evident at LP2003 can be viewed as the linking up of various attacks on the veil at the TeV energy scale. These are tightening the knots on the ever constraining Standard Model and foreshadows the bursting forth of New Physics that will overwhelm, delight, excite and inspire us. We hope that LP2005 will bring us a glimpse of this future era.

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